Resource Issue Photos

Glade Range Management Analysis

Resource Issue: Poor condition of springs, seeps, and riparian areas

Resource Issue: Swales have poor plant species composition with little riparian vegetation and in some locations bare banks

Resource Issue: Lack of litter, crusts, and plant mat-formation to prevent continuous overland water flows. This is found in brome dominated parks, pinyon-juniper, mountain shrubland and sagebrush shrubland vegetation types.

Resource Issue: Mountain grassland parks lack native bunchgrasses, have poor species composition and have a high percentage of bare ground

Resource Issue: Mountain shrublands and sagebrush shrublands have bare ground, poor species diversity and poor age class diversity.

Resource Issue: Increase and spread of invasive species

The fence contrast between these two allotments gives a good indication of the difference management can make. The upper allotment has an abundance of Mountain muhly (*Muhlenbergia montana*), a dense native bunchgrass. This is a good forage plant, particularly while it is young. It grows during the spring and summer months. It also forms dense deep root masses that help hold soil and maintains soil moisture. The absence of this species and the abundance of bare ground on the lower portion of the photo is indicative of a pasture where livestock use is heavy. In this case, the upper pasture has been grazed for the past 12 years at a stocking rate of 8.0 Acres/AUM or less while the lower one has been stocked at 3.8 Acres/AUM. The operator of the above allotment also has a full-time herder/ranch hand while the lower one does not.

Fence Contrast

Fence Contrast Closer

Fence Contrast Ground View

Bunch grass (Mountain muhly) in upper allotment shows the abundance of litter and ground cover present to hold soil and soil moisture

Lack of bunch grasses and the dominance of shall-rooted species such as Kentucky bluegrass and bare ground are indications of unhealthy ranges that are not resilient

The importance of maintaining or increasing native bunchgrasses can easily be seen in what they contribute both above and below ground. The following photos show the native bunchgrass, Mountain Muhly *(Muhlenbergia montana*) on the left and the nonnative Kentucky Bluegrass (*Poa pretensis*) on the right.

Above ground, Mountain Muhly plants provide exponentially more herbaceous material as forage for livestock. It is considered a good forage plant particularly in the Ponderosa Pine type. It is considered one of the most palatable bunchgrasses for cattle, particularly in its young stage. Its energy value is rated good. It also provides abundant litter for ground cover, watershed protection and nutrient recycling.

Below ground, Mountain Muhly roots are larger, robust and extend deeper into the ground. These traits provide for greater soil and water holding capacity and prevention of erosion.

Kentucky bluegrass is a sod- forming grass considered palatable by cattle in the early spring when it is green and succulent, otherwise rated as fair forage. Its forage yields are generally low. It tends to increase under heavy grazing pressure. It has good nutritive value in its early growth stages declining after flowering. It may only provide for the minimum maintenance energy needs of ruminants. Its roots are small, frail and shallow.